

IN THE DRAWINGS

Please accept amended drawing Fig. 8, which is enclosed herewith. The amendments to the drawing are indicated by red ink.

REMARKS

I. Status of the Application

Claims 1-10 are pending in this application. In the February 24, 2005 office action, the Examiner:

- A. Rejected claim 5, 9 and 10 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite;
- B. Rejected claims 1-4 and 7 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,440,510 to Caprara et al. (hereinafter "Caprara"); and
- C. Rejected claim 6 and 8 under 35 U.S.C. § 103(a) as allegedly being obvious over Caprara in view of U.S. Patent No. 6,614,684 to Shukuri et al. (hereinafter "Shukuri").

In this response, applicants have cancelled claims 1-10, amended Fig. 8, and added new claims 11-20 in order to more distinctly claim and particularly point out the invention. The amendment to the drawing and the new claims do not present new matter and are completely supported by the specification. Applicants respectfully traverse the rejections in light of the new claims.

II. The Indefiniteness Rejections are Moot

The Examiner rejected claims 5, 9 and 10 as allegedly being indefinite. These rejections are now moot and should be withdrawn because claims 1-10 have been cancelled.

III. The Rejections Over Caprara Should Be Withdrawn

In the July 30, 2004 office action, the Examiner rejected claims 1-4 and 6-8 over Caprara alone or in combination with Shukiri. Although claims 1-10 have been cancelled, many of the limitations of these claims have been incorporated into the new claims 11-18. As will be discussed below in detail, neither Caprara nor Shukiri, either alone or in combination, teach, show or suggest each and every element of the new claims. As a consequence, it is respectfully submitted that the new claims 11-20 are allowable.

A. New Claim 11

New Claim 11, incorporates limitations from cancelled claims 1, 2, 6, 8, and 9 while more distinctly claiming these limitations. For instance, claim 11 includes a memory element. The memory element as described in claim 11, includes a floating gate and control electrode, the floating gate further comprises a first and second floating gate portion that are vertically and laterally offset from each other. Claim 11 further includes a plurality of metallization layers, at least one of which is used as the shield for the floating gate.

The determination of which metallization layer to use for the shield is determined by the orientation of the control electrode and the floating gate. If the control electrode is closer to the surface of the substrate than the floating gate (i.e., the floating gate is between the control electrode and the metallization layers), then the metallization layer of the plurality of metallization layers that is farthest from the floating gate is used as the shield for the floating gate. In the case that the floating gate is closer to the surface of the substrate than the control electrode (i.e., the control electrode is between the floating gate and the metallization layers),

then the metallization layer of the plurality of metallization layers that is closest to the control electrode is used as the shield for the floating gate.

Caprara fails to teach, show or suggest the structure and orientation of the memory element, (i.e., the first and second floating gate portions being vertically and laterally shifted from one another) as well as the substrate having a plurality of metallization layers. Moreover, Caprara does not teach that the metallization layer that is selected to be used as the shield depends on the orientation of the floating gate and the control electrode. In fact, Caprara completely fails to teach the arrangement of the floating gate disposed between the control gate and the shield.

Shukiri also fails to teach, show or suggest the structure and orientation of the memory element. Moreover, Shukiri fails to discuss the possibility of selecting a specific metallization layer to form a shield by connecting the same to the substrate.

For these reasons it is respectfully submitted that neither Caprara nor Shukiri, either alone or in combination, contains each and every element of new claim 11. Therefore, it is believed that claim 11 is allowable over any prior art.

B. New Claims 12 and 13

New claims 12 and 13 depend from and incorporate all of the limitations of new claim 11. Accordingly, for at least the same reasons as those set forth above in connection with claim 11, it is respectfully submitted that claims 12 and 13 are allowable as well.

C. New Claim 14

Claim 14 is directed to a semiconductor structure comprising a substrate, a first portion formed on the substrate comprising a memory element including a floating gate and a control electrode capacitively coupled to the floating gate; and a second portion formed on the first portion comprising a control terminal for controlling the control electrode, and a shield for the floating gate. The shield is connected to the substrate; and the control terminal is operably connected to the control electrode by way of a connection that extends through the second portion of the substrate.

Neither Caprara nor Shukiri teach, show, or suggest a control terminal that is formed in another portion of the substrate for controlling the control electrode. Nor, do they teach, show or suggest a connection that extends through the second portion for connecting the control terminal to the control electrode of the floating gate.

For at least these reasons it is respectfully submitted that Caprara either alone or in combination with Shukiri does not anticipate new claim 14. Therefore, it is believed that claim 14 is allowable over any prior art.

D. New Claims 15-20

New claims 15-20 depend from and incorporate all of the limitations of new claim 14. Accordingly, for at least the same reasons as those set forth above in connection with claim 14, it is respectfully submitted that claims 15-20 are allowable as well.

IV. Conclusion

For all of the foregoing reasons, it is respectfully submitted the applicants have made a patentable contribution to the art. Favorable reconsideration and allowance of this application is, therefore, respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'H. Moore', with a long horizontal flourish extending to the right.

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